REMARKS/ARGUMENTS

In an Office Action dated February 23, 2007 claims 1–59 were rejected under § 102 based on Shinomiya. Applicants amend the claims as shown above and submit that the claims are allowable.

Section 102 Rejections

Claim 1

Claim 1 was rejected under § 102 over Shinomiya. Applicants traverse the rejection.

The first element of Claim 1 requires "receiving a data record having a plurality of data segments." The Office Action does not correspond any element in Shinomiya to relate to this required claim element. As such, the rejection is improper as it has failed to show a first required element.

The second element of claim 1 requires "saving said data segments in a local memory of a network controller (NC)." Again the Office Action does not correspond any element in Shinomiya to relate to this required element. As such, the rejection is improper as it has failed to show a second required element. Further, a review of Shinomiya does not indicate any such local memory in the receiving device of Shinomiya.

The third element of claim 1 requires "assigning a virtual write buffer (VWB) entry, in said local NC memory, for the incoming data record." The Office Action cites paragraph 47 of Shinomiya, which only describes a TLB, not a VWB, and paragraph 60, which mentions some buffers used to temporarily hold data while the TLB operation is being performed. A TLB is simply a device which performs a virtual to physical address translation function. It is called a buffer because a number of conversion entries are cached in a buffer to speed operations. Thus a TLB is not related to a VWB, which is used to reassemble data segments. The capability to be used for reassembly of data segments is something which is not present in a TLB, which is a mere address translator. Thus another required element is not present in Shinomiya when the claim limitations are considered.

The fourth element of claim 1 requires "reassembling said data segments of said data record using said VWB." This is another instance where the Office Action does not point to any

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portion of Shinomiya in making the rejection. Thus, again, the rejection is improper. Further, Shinomiya is not related to reassembly of data segments of a data record, only transfer of data between two computers. Therefore this element will not be present in Shinomiya.

The final element of claim 1 requires "sending said data record from the network controller directly to an I/O controller of a storage device." The Office Action cites paragraphs 44, 49 and 146 of Shinomiya. Paragraph 44 just relates to a block diagram of a computer. Paragraph 49 relates to a transmitting device, whose interconnection with the other claim elements is unclear. If the transmitting device of paragraph 49 is performing the sending operation of the claim element, there is no indication of the I/O controller required in the claim. If the I/O controller is, improperly, considered to be the system controller 200 of Shinomiya, then the transmitting device would not be sending a data record to that system controller but rather would be receiving a data record. Thus paragraph 49 is either insufficient or improper. Paragraph 146 describes operation of a receiving device. The interconnection of the receiving device with the other claim elements is also unclear. The Office Action fails to specify any interconnection or relationships between the various cited elements, just citing isolated items. Thus numerous items in the final element of claim 1 are missing.

With numerous elements of claim 1 not cited and the various cited portions of Shinomiya either not relevant or not properly interconnected, Applicants submit the rejection is improper and must be withdrawn.

Claim 4

Claim 4 requires the data segments being virtually reassembled in the network controller local memory to form a reassembled data record. The Office Action cites paragraphs 127 and 139. Paragraph 127 only relates to internal TLB operation, not any operations on reassembling a data record. Paragraph 139 similarly relates to internal TLB operations, not any operations reassembling a data record. Therefore the citations to Shinomiya are not related to claim 4 so that the rejection is improper and should be withdrawn.

Claim 6

Claim 6 requires "i) performing a transport layer processing on the data segments, and, assigning a memory object descriptor (MOD) to each of the data segments." The Office Action

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fails to cite any portion of Shinomiya as corresponding to requirement i) relating to transport layer processing. This is a first reason the rejection is improper. Shinomiya does not discuss transport layer processing at all so it cannot teach or suggest this element. The Office Action cites paragraphs 18 and 60 to requirement ii) relating to assigning MODs. Paragraph 18 discusses very broadly Shinomiya operation but nowhere discusses anything equivalent to MODs. If paragraph 18 is to be further cited, Applicants request further specificity in citing paragraph 18. Paragraph 60 just describes the elements of the receiving unit and the operation of the TLB. Again, there is nothing equivalent to a TLB. Here also Applicants request further specificity in any future citation to paragraph 60. Applicants also note that it would be improper to equate a TLB to be an MOD as the Office Action has previously apparently cited the TLB as being the VWB. This citation for different elements would be improper.

Claim 10

Claim 10 requires the network controller to maintain a VWB table including at least one VWB entry. The Office Action cites paragraphs 54 and 64, both of which describe the TLB of Shinomiya. As discussed above with regard to claim 1, it is improper to equate the TLB of Shinomiya to the VWB entry and table of the claims. Withdrawal of the rejection is requested.

Claim 11

Claim 11 requires a VWB entry to include an offset field and a pointer field. The Office Action cites paragraphs 64, 71 and 72. Again, this just describes a TLB. A TLB entry, as shown in Shinomiya, just has a virtual address base and a real address base. There is no offset and no pointer. Indeed, in Shinomiya the lower 13 bits of the virtual address are the offset. These bits are not contained in the TLB but simply concatenated with the real address base from the TLB. Thus Shinomiya actually teaches against an offset in the TLB. Withdrawal of the rejection is requested.

Claim 12

Claim 12 requires that the memory address space of the VWB entry is mapped to the memory address space of the allocated private buffer, noting that the private buffer is allocated in local host memory and the VWB entry is in the network controller. The Office Action just cites

paragraphs 54 and 64, both describing TLB operation. The TLB cannot meet this requirement. There is no indication that the TLB would have a memory address of an allocated buffer in the host computer. Indeed, conventionally a TLB does not have any address, it just translates addresses. The rejection is improper and must be withdrawn.

Claim 13

Claim 13 requires reassembling the data segments by setting the offset field and the pointer field of a VWB entry. The Office Actions cite various paragraphs relating to TLB operation. Again, a TLB does not relate to reassembling data segments and its operation does not teach any such reassembly. This is particularly true when, as pointed out in the remarks on claim 11, the TLB includes neither an offset field nor a pointer field. Withdrawal of the rejection is requested.

Claim 14

Claim 14 requires various operations relating to the offset field and the pointer field in relation to the MODS. The citations to Shinomiya in the Office Action do not relate to the required operations, at least because the TLB has no such fields and Shinomiya has nothing equivalent to MODs. Withdrawal is requested.

Claims 1-19

Applicants therefore submit that claims 1-19 are allowable, either as being allowable themselves, being dependent on allowable independent claims or being dependent on allowable dependent claims.

Claims 39-59

Applicants submit that similar arguments to those made with regard to claims 1-19 apply to claims 39-57 so that they are also allowable.

CONCLUSION

Entry of the amendments is requested as they place the application in condition for allowance. Based on the above Applicants respectfully submit that all of the present claims are allowable.

Respectfully submitted,

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